

## ***DELTOSTETHUS SCITULUS*, A NEW HYDROPHILID BEETLE FROM MEXICO (COLEOPTERA: HYDROPHILIDAE)<sup>1</sup>**

Paul J. Spangler<sup>2</sup>, Aurea H. Huacuja<sup>3</sup>

**ABSTRACT:** A new species of sphaeriidiine hydrophilid beetle, *Deltostethus scitulus* is described, illustrated, and compared to the other two species in the genus, *D. palpalis*, Sharp and *D. sulcatus* Sharp. The type-material was collected in pitfall traps in the state of Hidalgo, Mexico, during a study of staphylinid beetles attracted to various baits. The new species was attracted to pitfall traps baited with chicken viscera, fish, cow and human feces, and bananas.

During a study by A.H. Huacuja of staphylinid beetles attracted to baited pitfall traps, several species of sphaeriidiine hydrophilid beetles also were attracted to the baits. Among these sphaeriidiines were several species of *Cercyon* and a species of *Deltostethus*, a genus described by Sharp (1882). This species proved to be distinct from the other known species in that genus, *D. palpalis* Sharp and *D. sulcatus* Sharp. The new taxon is described below.

### *Deltostethus scitulus*, new species

Figures 1 - 6

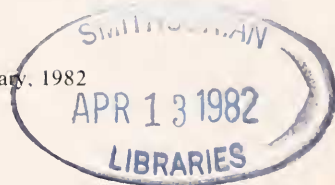
**Holotype male.** — Body form and size: Ovoid (Fig. 1). Length 2.5 mm; greatest width 1.6 mm, slightly before midlength of elytra.

**Coloration:** Head piceous except small indistinct spot above base of each antenna and anterior margin of clypeus dark reddish brown. Pronotum piceous except sides with broad yellowish-brown margins, marginal color band as wide as width of eye on anterior two-thirds, then narrowing abruptly to posterolateral angle. Elytra black except yellowish-brown markings as follows: intervals 1-4 vittiform, intervals 5 and 6 with a basal (humeral) and medial elongate macula, intervals 7 and 8 each with a medial elongate macula, interval 10 yellowish brown on basal half; intervals 3-6 with short, elongate, yellow maculae subapically; yellow markings terminate a short distance before piceous apex. Ventral surface as follows. Antennae, maxillae, and palpi light reddish brown. Labium and genae very dark reddish brown. Prosternum very dark reddish brown to piceous. Hypomera yellowish brown. Mesosternum with elevated middle portion light reddish yellow and sides piceous. Metasternum piceous laterally; elevated middle pentagonal area piceous medially, with narrow reddish-brown border. Epipleura yellowish brown. Legs reddish brown except basal four-fifths of profemora piceous. Abdomen reddish brown.

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<sup>2</sup>Department of Entomology, Smithsonian Institution, Washington, D.C. 20560

<sup>3</sup>Universidad Autonoma Metropolitana, Xochimilco, Div. C.B.S., Insectario, Apdo. Postal 23-181, Mexico 23, D.F., Mexico



**Head:** Moderately coarsely, moderately densely punctate; punctures on frons separated by one-half to 1 times their diameter; surface between punctures smooth. Clypeus rounded and strongly margined anteriorly (Fig. 2). Mentum with coarse punctures; punctures separated by about 4 to 6 times their diameter (Fig. 2).

**Thorax:** Pronotum strongly convex; sides and anterolateral angles broadly rounded, posterolateral angles obtusely angulate; narrowly margined laterally; punctate as on head except punctures separated by 1 to 3 times their diameter. Elytron strongly convex; widest slightly before midlength; finely but distinctly margined along entire length; surface with a sutural stria and 9 rows of coarse punctures, lateral rows (5-7) effaced by humeral area; intervals between rows finely and sparsely punctate, punctures separated by 2 to 5 times their diameters; surface between punctures smooth on basal half and becoming strongly microreticulate on apical half; epipleuron extending from base to midlength, moderately declivous. Metathoracic flight wings present. Scutellum narrow and triangular. Elevated middle portion of prosternum pubescent, sides not pubescent (Fig. 3). Prosternum and sides of mesosternum and metasternum microreticulate. Elevated middle portion of mesosternum elongate, pentagonal (Figs. 3 & 4) margined, shiny, finely and sparsely punctate and smooth between punctures. Metasternum (Fig. 4) with elevated middle portion shiny, moderately coarsely and sparsely punctate, punctures on discal area separated by 1 to 4 times their diameters; punctures on microreticulate sides about equal to those on elevated part but sparser. Profemur pubescent on basal two-thirds of ventral (posterior) surface. Mesofemora and metafemora not pubescent but coarsely and sparsely punctate, punctures separated by 1 to 5 times their diameters.

**Abdomen:** Sterna microreticulate; with sparse, short, fine, golden setae. First sternum with distinct median longitudinal carina as long as sternum. Male genitalia as illustrated (Fig. 6).

**Female.** — Similar to male externally but lacks the adherence disc present on the maxilla of the male (Fig. 5).

**Variations.** — Specimens vary slightly in color pattern, e.g., in most specimens, the yellowish-brown humeral macula is about half as large as it is in others. In 16 specimens the humeral macula is distinctly separated from the basolateral yellowish-brown elytral margin by a narrow, black, lineate band; in 7 specimens the black color of the elytra is reduced and the macula is confluent or very nearly confluent with the basolateral yellowish-brown elytral margin. Also, in a few of the specimens with reduced black on the elytra, the yellowish-brown subapical maculae on intervals 3-6 are absent or indistinct. Females are larger (3.0 mm to 3.1 mm) than the males (2.5 mm to 2.7 mm).

**Type-data.** — Holotype male: MEXICO: Hidalgo, Zacualtipan, Cam. a Ferreria, 11-12 July 1980, A.H. Huacuja; USNM type-number 100112, deposited in the U.S. National Museum of Natural History, Smithsonian Institution. Allotype, same data as holotype, deposited in the Universidad Nacional Autonoma de Mexico. Paratypes: Same locality and collector as holotype, collected on the following dates: 27 May 1979, 1 male, 1 female; 12-14 Oct. 1979, 2 males, 4 females; 14 Oct. 1979, 2 males, 3 females; 8-10 Mar. 1980, 1 female; 20-22 June 1980, 1 male, 1 female; 11 & 12 July 1980, 1 male, 1 female; 11-13 July 1980, 1 female; 12 July 1980, 1 male, 1 female. Paratypes will be deposited in the entomology collections of the Smithsonian Institution (9), the Universidad Autonoma Metropolitana, Xochimilco (4), the Universidad Autonoma de Mexico (4), and in the Museo de Historia Natural de la Ciudad de Mexico, Chapultepec (4).

Etymology. — From scitulus (L.) =pretty, in reference to the attractive color pattern of this species.

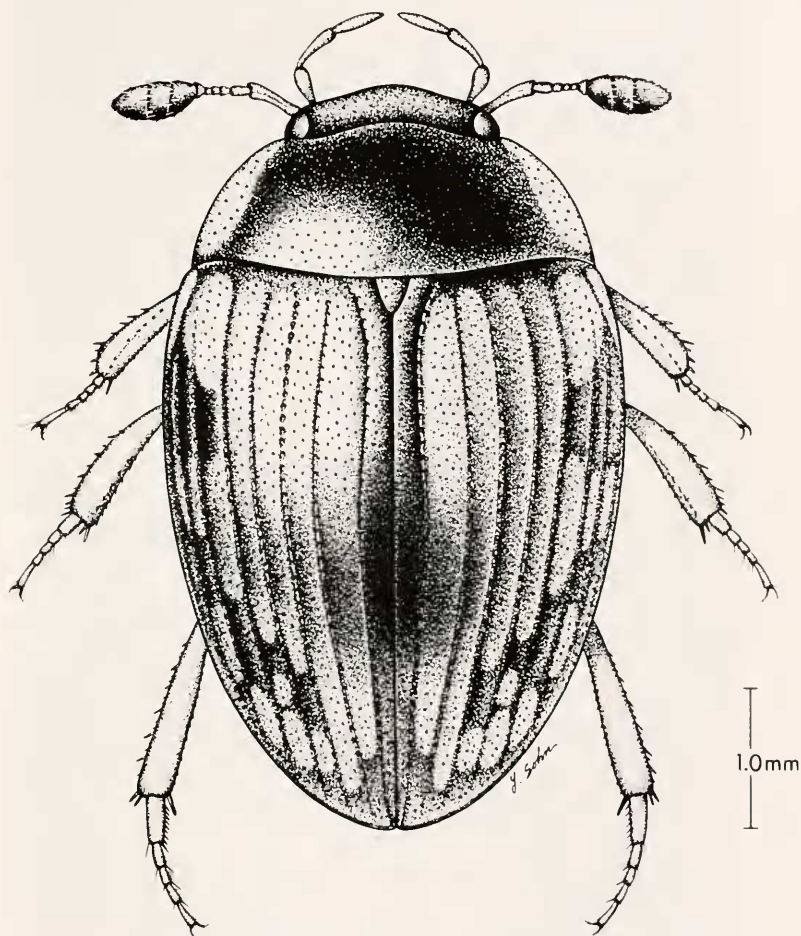


Fig. 1. *Deltostethus scitulus*, n. sp., habitus view.



Figs. 2 & 3. *Deltostethus scitulus*, n. sp.: 2, Clypeus & mentum, 225 times; 3, Prosternum and mesosternum, 85 times.





Figs. 4 & 5. *Deltostethus scitulus*, n. sp.: 4, Mesosternum & metasternum, 85 times; 5, Adherence disc on male maxilla, 550 times.

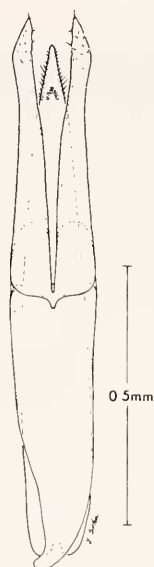


Fig. 6. *Deltostethus scitulus*, n. sp., male genitalia.

**Habitat.** — All of the specimens were collected in baited pitfall traps in a montane rain forest in the Sierra Madre Oriental at an altitude of 1860 m. The vegetation in the area is composed principally of *Pinus patula* Schlecht. & Cham., *Quercus* spp., *Liquidambar styraciflua* L., and *Alnus jorullensis* HBK with a groundcover of pteridophytes and bryophytes. The baits that attracted the specimens were decomposing chicken viscera, fish, cow and human feces, and banana. The beetles were attracted to the baits during both day and night. Five specimens were collected directly from cow manure deposited 48 hours earlier; these were found under the encrusted surface in the moist manure.

**Comparative notes.** — This new species of *Deltostethus* may be distinguished easily from *D. palpalis* Sharp and *D. sulcatus* Sharp, the only other species described for the genus, by the following character states: (1) Mesosternum elongate, pentagonal, half as wide as long; (2) metasternal disc sparsely and moderately coarsely punctate; (3) color black with yellow-brown markings and intervals 1-4 vittiform.

The following key will separate the three known species of *Deltostethus*.

1. Elevated part of mesosternum elongate, pentagonal, twice as long as wide; metasternal disc with moderately coarse, sparse punctures; elytral intervals 1-4 vittiform; Mexico ..... *scitulus*, n. sp.

Elevated part of mesosternal disc as long as wide, pentagonal or practically round; metasternal disc with coarse, dense punctures; elytra uniformly reddish-yellow, uniformly black, or black with transverse fascia of minute yellow marks behind the middle. .... 2

2. Elevated part of mesosternal disc pentagonal, laterally angulate; dorsum uniformly reddish-yellow to black with transverse fascia of minute yellow marks behind the middle; Guatemala & Panama ..... *sulcatus* Sharp

Elevated part of mesosternal disc practically round; laterally not distinctly angulate; dorsum uniformly black; Panama ..... *palpalis* Sharp

#### ACKNOWLEDGMENTS

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#### LITERATURE CITED

- Sharp, D. 1882. *Biologia Centrali-Americana*. Insecta. Coleoptera, Haliplidae, Dytiscidae, Gyrinidae, Hydrophilidae, Heteroceridae, Parnidae, Georissidae, Cyathoceridae I(2):1-144.